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Four new species of the genus *Stathmopoda* (Lepidoptera, Stathmopodidae) closely related to *S. flavescens* from Japan

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Abstract Four new species of the genus *Stathmopoda* Herrich-Schäffer from Japan are described. They all are associated with *Callicarpa japonica* Thunb. They are very similar to each other and to *S. flavescens* Kuznetzov. The adult external characteristics, wing venation, and male and female genitalia of these species are illustrated and compared in detail.

Key words Taxonomy, *Stathmopoda magnisignata* n. sp., *S. callicarpicola* n. sp., *S. gemmiconsuta* n. sp., *S. luxuriivora* n. sp., *Callicarpa japonica*.

Introduction

I examined many unidentified Japanese specimens of stathmopodid moths very similar to *Stathmopoda flavescens* Kuznetzov, and determined that the specimens consisted of four species. They were undescribed, but the morphology of one species had been reported in Oku (2003) as an unidentified species. These species were associated with *Callicarpa japonica* Thunb. (Lamiaceae) and were closely related to each other. In this paper, I describe the new species with illustrations and remarks on their distinguishing characters and distribution.

Materials and Methods

Some of the specimens were received from Dr K. Yasuda (National Institute for Agro-Environmental Sciences, Ibaraki-Pref., Japan (NIAES)) and Mr T. Mano (Toyota Yahagi River Institute, Aichi-Pref., Japan (TYRI)), and are deposited in the collection of the Entomological Laboratory, Kagoshima University, Japan (KGU). The other specimens were borrowed from the collection of Dr T. Oku, the Entomological Laboratory, Osaka Prefecture University, Japan (OPU), the Hokkaido University Museum, Japan (HoUM), and NIAES.

Wing venation was observed after preparation. Detached wings were cleaned to remove scales with a raccoon-fur brush in 40% EtOH, and were stained with acid fuch-sine solution. Male and female genitalia were dissected after maceration for about 6 h in 10% aqueous KOH, heated with lactic acid in a drying oven (60°C), and stained with mercurochrome solution.

The terminology follows Kasy (1973), Yasuda (1988) and Koster and Sinev (2003).

Taxonomy

Diagnostic characteristics of the four new species and *Stathmopoda flavescens* are summarized in Table 1.

Stathmopoda magnisignata n. sp.

[Japanese name: Murasakishikibu-maikoga]

Stathmopoda sp. 2; Oku, 2003: 40.

Diagnosis (Figs 1–2, 13–16). This new species is sexually dimorphic in coloration. The male is very similar to that of *S. callicarpicola* n. sp., but can be distinguished by the coloration of thorax and forewing as follows. In this species, there are no ocher markings on the thorax, but the ocher basal marking of the brownish black forewing is present. In contrast, in *S. callicarpicola*, an ocher dorsal blotch is present in the middle of the mesothorax and three ocher markings on the dark brown forewing are present near base, middle and termen. The female is very similar to *S. callicarpicola* n. sp., *S. flavescens*, *S. gemmiconsuta* n. sp. and *S. luxuriivora* n. sp., but can be also distinguished by the coloration of thorax and forewing as follows. In this species, the ground color of the thorax is dark brown. The dark brown fascia at 1/3 of forewing is as broad as the fascia at 2/3. In contrast, in *S. callicarpicola*, the ground color of the thorax is ocher. There is a brown arched fascia across the middle of the mesothorax. The brown fascia at 1/3 of forewing is broader than the fascia at 2/3. In *S. flavescens*, *S. gemmiconsuta* and *S. luxuriivora*, three brown spots are present on the ocher thorax . The brown fascia at 1/3 of forewing is as broad as the fascia at 3/5.

In the genitalia, this species can be distinguished by the following characteristics. The gnathos is round. The signum is very long.

Description. Wing expanse 11.1–13.9 mm. Forewing

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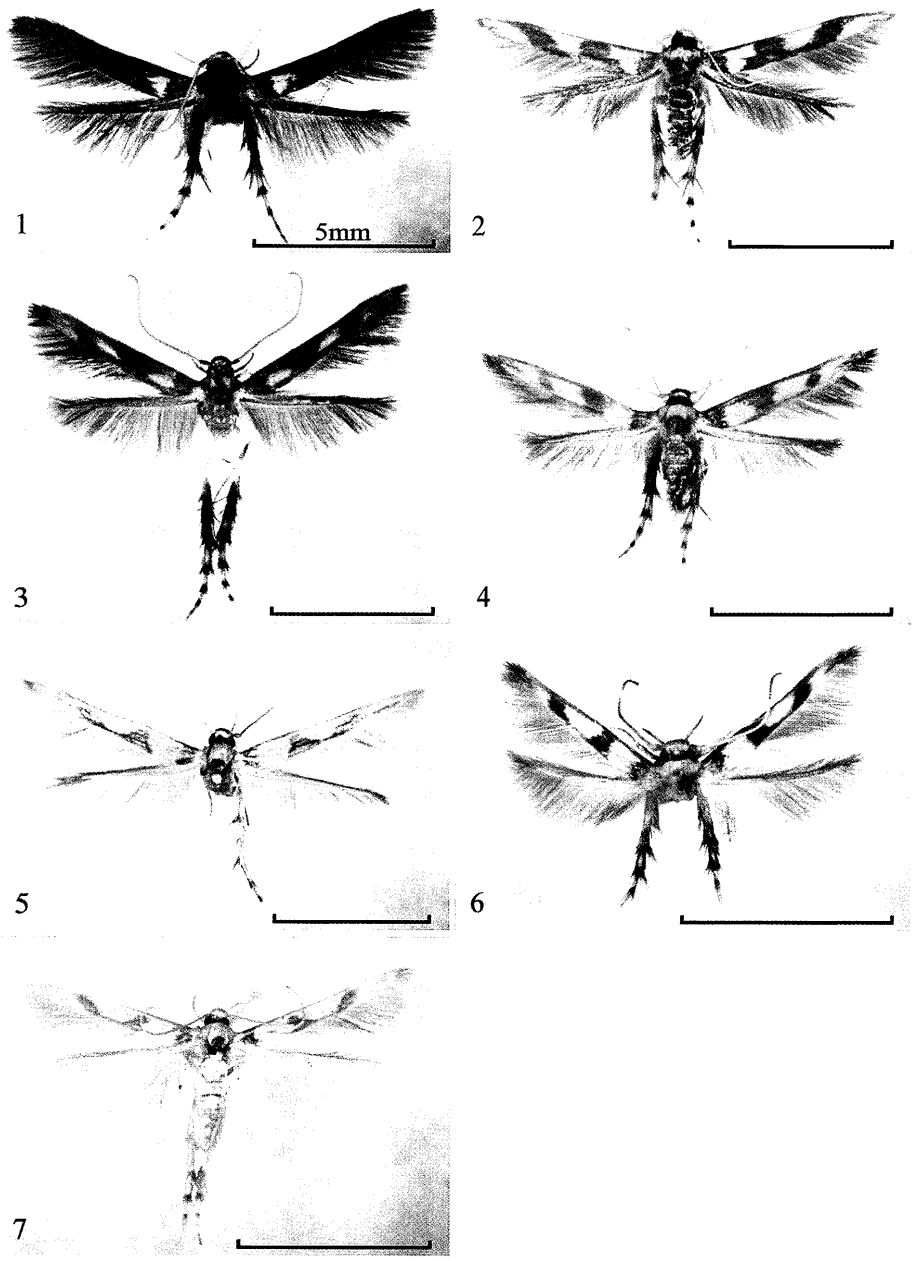

Figs 1–7. Adult specimens. 1: Holotype ♂. 2: paratype ♀, *Stathmopoda magnisignata* n. sp. 3: holotype ♂. 4: paratype ♀, *S. callicarpicola* n. sp. 5: holotype; *S. gemmiconsuta* n. sp. ♂. 6: holotype; *S. luxuriivora* n. sp. ♂. 7: *S. flavescens*

length 5.1–6.3 mm. The species is sexually dimorphic in coloration.

Male (Fig. 1). Labial palpus ocher, ventrally pale white, dorsally with a brownish black patch around connection of first and second segments; third segment dorsally darkened toward apex. Antenna ocher; scape dorsally brown to brownish black.

Vertex ocher to brownish black; frons white to gray; occiput brownish black. Patagium brownish black. Thorax uniformly brownish black.

Wing markings. Forewing brownish black; triangular ocher marking present at about 1/6 near dorsum, not reaching costa; cilia brownish black. Hindwing dark fuscous; cilia brownish black.

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Table 1. Diagnostic characters of four new species and *Stathmopoda flavescens*.

		S. magnisignata	*S. callicarpicola*	*S. gemmiconsuta*	*S. luxurivora*	*S. flavescens*
Thorax	Ground color	♂: brownish black, ♀: dark brown	♂: dark brown, ♀: ocher	ocher	ocher	ocher
	Markings	♂: absent, ♀: ocher band	♂: ocher blotch, ♀: brown arched fascia	three brown spots	three brown spots	three brown spots
Forewing	Markings and fasciae	♂: one marking, ♀: two dark brown fasciae, same width	♂: three markings, ♀: two brown fasciae, first broader than second	two brown fasciae, same width	two brown fasciae, same width	two brown fasciae, same width
	Apical streak	♂: absent, ♀: unconnected with fascia	♂: absent, ♀: unconnected with fascia	running from fasciae	absent (blotch present)	absent
Gnathos		round	tongue-shaped	tongue-shaped	tongue-shaped	tongue-shaped
Uncus		stout	slender	apex truncate	apex shallowly bilobate	apex blunt or truncate
Costa of valva		round	weakly angled	round	round	round
Apex of succulus		round	round	round	subtriangular, sticks out caudally	round
Structure of ostium bursae		bar-shaped	bar-shaped	absent, sometimes present weakly sclerotized	triangular	bar-shaped
Spicules of corpus bursae and bulla		absent	absent	few	absent	many
Signum		very long, crescent	bar-shaped	crescent	bar-shaped	crescent
Bulla		stout	stout	very stout, assimilated with corpus bursae	absent	very stout

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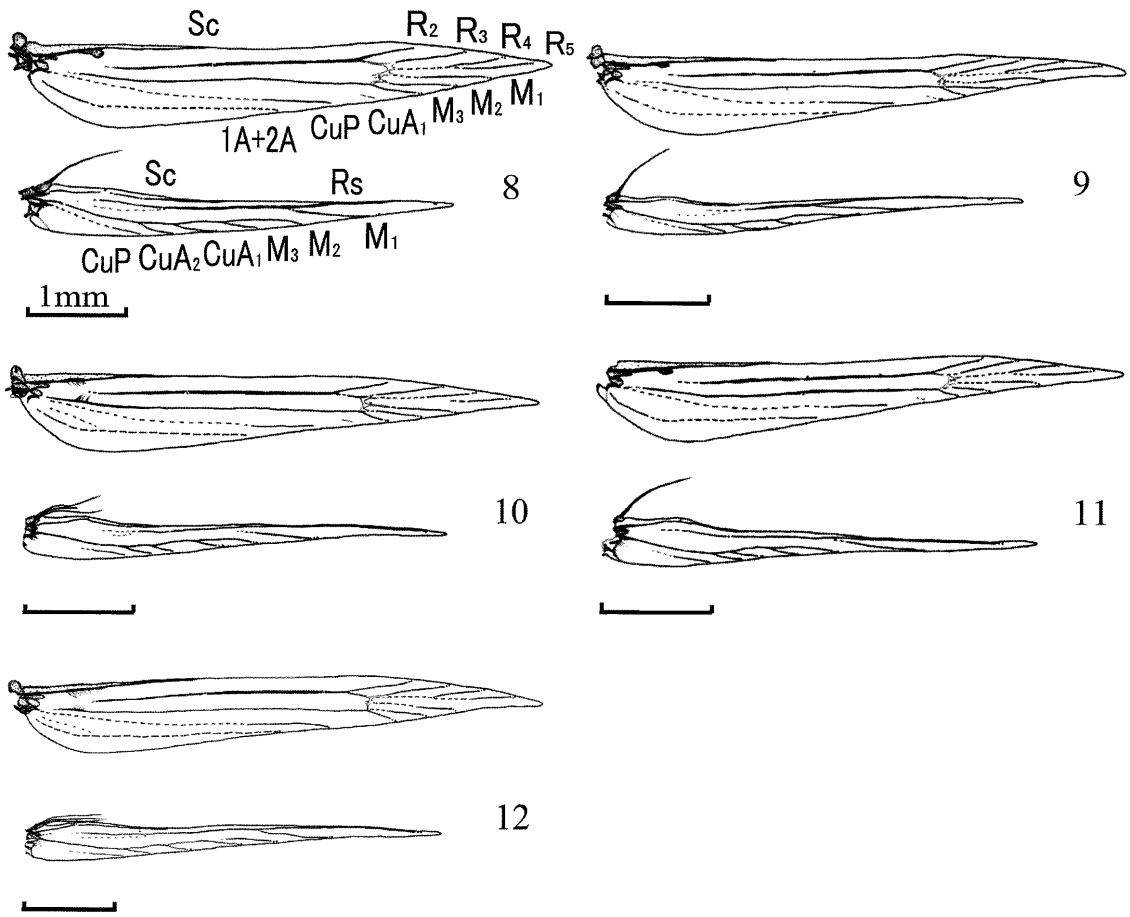

Figs 8–12. Wings: shape and venation. 8: *Stathmopoda magnisignata* n. sp.; 9: *S. callicarpicola* n. sp. 10: *S. gemmiconsuta* n. sp. 11: *S. luxuriivora* n. sp. 12: *S. flavescens*.

Wing venation (Fig. 8). Forewing lanceolate, widest near base; 11-veined; discoidal cell long, occupying basal 7/10 of wing. Sc connected with costal margin of wing on basal 1/3. R_1 absent; R_2 from near upper angle of cell; R_3 from upper angle of cell; R_4 and R_5 stalked. M_3 from lower angle of cell. CuA_1 present only near dorsum, rudimentary; CuA_2 absent. 1A+2A running to about middle of dorsum, rudimentary, not branched. Hindwing narrow, 4/5 as long as forewing; eight-veined; discoidal cell open. Rs running to apical 2/7 of costa. M_2, M_3, and CuA_1 stalked, in common with CuA_2; CuA_2 running to about 1/3 of dorsum.

Legs dorsally ocher, ventrally white; fore-femur and -tibia ventrally brown to white; dark brown spot occupying area around connection of mid-femur and -tibia; mid-tibia dorsally with verticillbristle at middle and apex; hind-tibia dark brown, verticillbristle present dorsally at about 3/10, 3/5 and apex; first to third segments of hind-tarsus dark brown near apex, dorsally with verticillbristle at apex of first and second segments. Abdomen dorsally dark fuscous, ventrally white; spines of abdominal terga present on second to seventh segments.

Genitalia (Figs 13–15). Uncus stout, downturned apically, tapering caudally, with setae on lateral surface. Gnathos stout, as long as uncus, with round apex. Valva broadest near base, with round apex; costa stout and round dorsally, caudally with some setae; cucullus about 1.5 times as long as uncus, with numerous setae on inner surface; sacculus sclerotized, round at apex, ventrally with setae. Vinculum broadest near saccus; saccus 1/4 length of uncus and cephalically round. Juxta small, round. Anellar lobes developed, subtriangular, weakly sclerotized, with setae on surface. Aedeagus about three times as long as uncus; about caudal 2/5 of aedeagus membranous; cornutus absent; sclerotized structure present near base, narrow, subrectangular and thin; apical patch of stimuli present near apex of aedeagus, 3/7 length of aedeagus, broad, subrectangular, with round apex.

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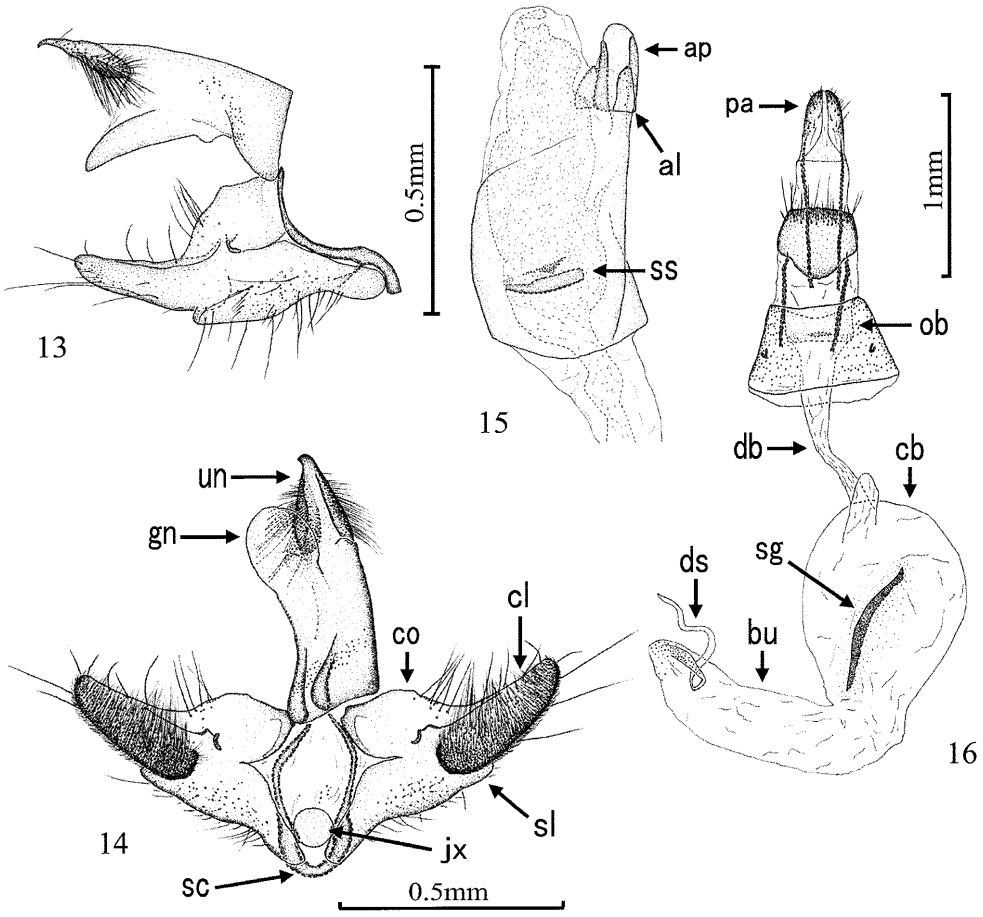

Figs 13–16. *S. magnisignata* n. sp., genitalia. 13: Lateral view of male, aedeagus and anellar lobes omitted. 14: Caudal view of male, aedeagus and anellar lobes omitted (un: uncus; gn: gnathos; co: costa of valva; cl; cucullus; sl; sacculus; jx: juxta; sc: saccus). 15: Aedeagus with anellar lobes (ap: apical patch of stimuli; al: anellar lobes; ss: sclerotized structure). 16: Dorsal view of female (pa: papillae anales; ob: ostium bursae; db: ductus bursae; cb: corpus bursae; sg: signum; bu: bulla; ds: ductus seminalis).

Female (Fig. 2). Labial palpus ocher, ventrally pale white, dorsally with a brown patch around connection of first and second segments. Antenna ocher. Vertex ocher; frons white; occiput dark brown. Patagium dark brown, with ocher fascia at middle. Thorax dark brown, with ocher band across middle of mesothorax.

Wing markings. Forewing ocher; costa dark brown, lightened toward apex; three dark brown fasciae present at base, about 1/3 and 2/3; second and third fasciae trapezoidal and sublozenged respectively, sometimes not reaching costa, connected to each other near dorsum by dark brown streak; obscure brown streak present or absent near apex; cilia fuscous. Hindwing dark fuscous; cilia fuscous.

Legs dorsally ocher, ventrally white; fore-femur and -tibia ventrally brownish black; dark brown spot occupying area around connection of mid-femur and -tibia; mid-tibia dorsally with verticillbristle at middle and apex; hind-tibia ventrally gray, dorsally with dark brown verticillbristle present at about 3/10, 3/5 and apex; first to third segments of hind-tarsus dorsally dark brown near apex, dorsally with verticillbristle at apex of first and second segments. Abdomen dorsally gray, ventrally white; spines of abdominal terga present on second to sixth segments.

Genitalia (Fig. 16). Seventh sternum with emarginate caudal margin. Papillae anales longer than wide, weakly sclerotized, dorsally with many short and long setae; joint membrane between papillae anales and eighth abdominal segment as long as papillae anales. Eighth abdominal segment dorsally sclerotized, cephalodorsally round, with short and long setae arranged along caudal margin. Apophyses posteriores long; apophyses anteriores about 5/8 times as long as apophyses posteriores. Ostium bursae

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rectangular, with bar-shaped sclerotized structure at middle. Ductus bursae short, 4/5 length of corpus bursae. Corpus bursae with an elongate appendicular pouch near caudal end. Signum very long, narrow crescent-shaped and oblique, spinous, situated at middle of corpus bursae, with serrate margin; micro spines present sparsely around signum. Bulla originating from cephalic margin of corpus bursae, long, stout. Ductus seminalis narrow; micro spines present.

Type material. Holotype ♂, Tsunagi, Iwate-Pref., Honshu, Japan, em. 18. vi. 1968, T. Oku (1♂ Gen. sl. no. 11083), deposited in KGU. Paratypes, Japan: Honshu: 3♂ 4♀, Tsunagi, Morioka-City, Iwate-Pref., em. 18–22. vi. 1968, T. Oku (3♂ 3♀ Gen. sl. no. KY-16, KY-17, KY-105, M-10171, M-10172, 1♂ Wing sl. no. 11074); 1♀, Shimashimadani, Azumi-Vill., Nagano-Pref., 30. vii. 1991, T. Hirowatari and Y. S. Bae; 3♂ 1♀, Fudodani, Miyama-Town, Mie-Pref., 2. vii. 1994 and 30. vi. 2001, T. Mano (3♂ 1♀ Gen. sl. no. 10049, 11090, 11004, 11075, 1♂ 1♀ Wing sl. no. 11008, 11013); 1♀, Mt. Wasamata, Kamikitayama-Vill., Nara-Pref., 5. viii. 1992, T. Ueda (1♀ Gen. sl. no. 11020).

Distribution. Japan: Honshu.

Host plant. *Callicarpa japonica* Thunb. (Lamiaceae).

Biology. Adults emerge in early to late summer. Larvae spin fresh leaves of the host plant. The larvae are found from lowlands to foothills of mountainous areas, and the adult is not attracted to light (Oku, 2003).

Remarks. Oku (2003) reported another undescribed species as *Stathmopoda* sp. 3, whose male genitalia was similar to *S. flavescens* and *S.* sp. 2 (=*S. magnisignata*). The specimens designated sp. 3 in Oku (2003) appear to represent a species different from those treated in this paper. However, I do not make any nomenclatural decisions on the species because of a scarcity of available specimens.

Stathmopoda callicarpicola n. sp.

[Japanese name: Usu-murasakishikibu-maikoga]

Diagnosis (Figs 3–4, 17–20). This new species is sexually dimorphic in coloration. The male is very similar to that of *S. magnisignata* n. sp., but can be distinguished by the coloration of the thorax and forewing markings as follows: the ocher dorsal blotch is present at middle of the mesothorax. Three ocher markings on the dark brown forewing are present near base, middle and termen. In contrast, in *S. magnisignata*, no ocher markings are present on the thorax, and only the ocher basal marking is present on the brownish black forewing. The female is also very similar to *S. magnisignata* n. sp., *S. flavescens*, *S. gemmiconsuta* n. sp. and *S. luxuriivora* n. sp., but can be distinguished by the coloration of the thorax and forewing markingsas follows: in this species, the ground color of the thorax is ocher. There is a brown arched fascia across the middle of the mesothorax. The brown fascia at 1/3 of forewing is broader than the fascia at 2/3. In contrast, in *S. magnisignata* n. sp., the ground color of the thorax is dark brown. The dark brown fascia at 1/3 of forewing is as broad as the fascia at 2/3. In *S. flavescens*, *S. gemmiconsuta* and *S. luxuriivora*, three brown spots are present on the thorax. The brown fascia at 1/3 of forewing is as broad as the fascia at 3/5.

In the genitalia, this species can be distinguished by the following characteristics. The uncus is slender. The costa of the valva is weakly angled. The signum is bar-shaped and the bulla is stout.

Description. Wing expanse 9.4–12.1 mm. Forewing length 4.7–6.0 mm. Very similar to *S. magnisignata*, but differing in the following characteristics.

Male (Fig. 3). Labial palpus dorsally with a brown patch around connection of first and second segments. Scape dorsally brown to dark brown. Vertex and occiput dark brown. Patagium ocher, darkened toward apex. Thorax dark brown; ocher blotch present at middle of mesothorax dorsally, rectangular.

Wing markings (Fig. 3). Forewing dark brown; three ocher markings present at about 1/6, middle and 4/5; first near dorsum, subtriangular, not reaching costa; second subrectangular; third very small, near dorsum, sometimes absent; cilia dark brown. Hindwing with dark brown cilia. Mid-tibia dorsally brown, lightened toward apex.

Wing venation (Fig. 9). Discoidal cell of forewing long, occupying basal 2/3 of wing. Hindwing Rs running to apical 2/5 of costa. CuA_2 running to about 3/10 of dorsum.

Genitalia (Figs 17–19). Uncus slender, with blunt and down-turned apex. Gnathos slender, with apex slightly downcurved and acute in lateral view, narrow tongue-shaped in ventral view. Costa of valva stout and dorsally weakly angled. Juxta small, oval. Apical patch of stimuli present near apex of aedeagus, 1/3 length of aedeagus, narrow, with round apex; about caudal 1/2 of aedeagus membranous.

Female (Fig. 4). Labial palpus dorsally with an ocher to brown patch around connection of first and second segments. Vertex fuscous; occiput fuscous to brown. Patagium ocher, brown at apical margin. Thorax ocher, brown on cephalic margin, fuscous on caudal margin, with brown arched fascia across middle of mesothorax.

Wing markings. Forewing ocher, with brown streaks on costa and 1/3 of dorsum; three brown fasciae present at base, about 1/3 and 2/3; second fascia widest toward costa;

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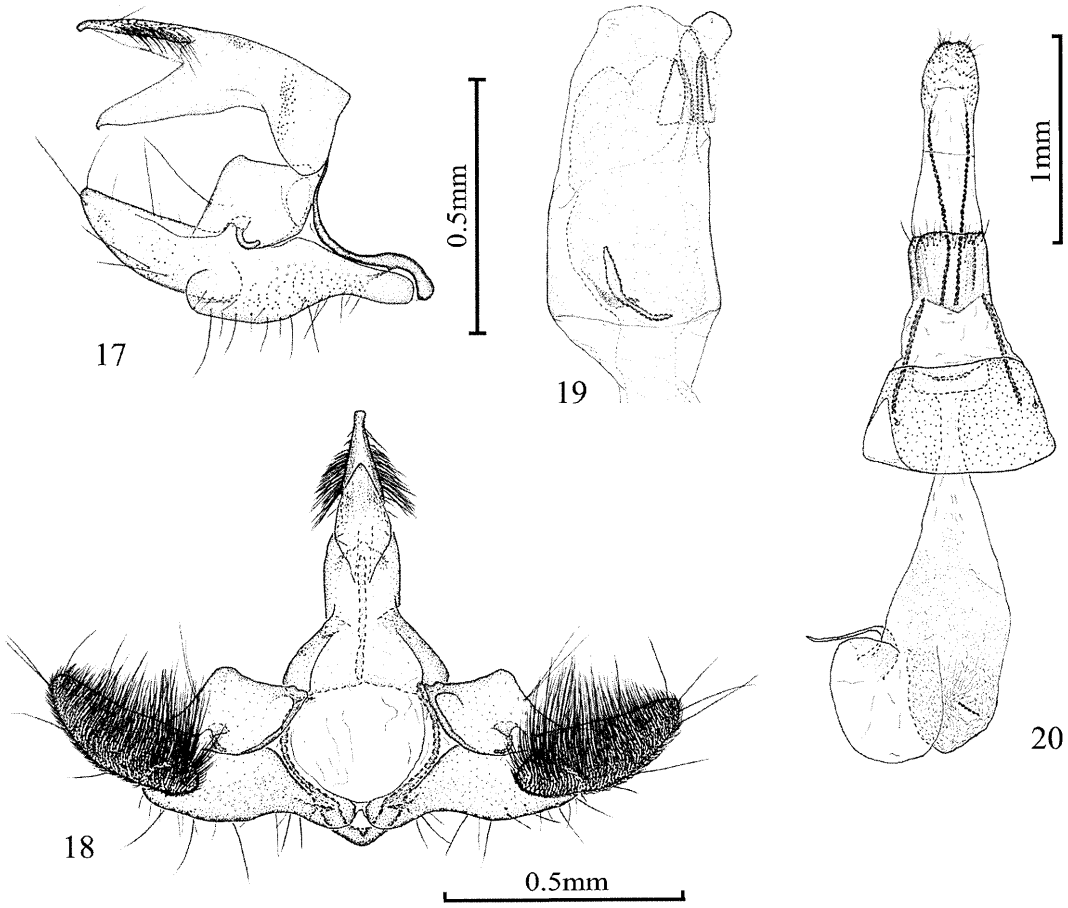

Figs 17–20. *S. callicarpicola* n. sp., genitalia. 17: Lateral view of male, aedeagus and anellar lobes omitted. 18: Caudal view of male, aedeagus, anellar lobes and juxta omitted. 19: Aedeagus with anellar lobes and juxta. 20: Dorsal view of female.

third fascia narrow, inwardly oblique, not reaching dorsum; second and third fasciae connected with brown streak near dorsum; brown streak present near apex; cilia ocher to fuscous. Hindwing fuscous.

Fore-femur and -tibia ventrally white to dark brown; mid-femur and -tibia dorsally brown around their connection; hind-tibia dorsally with ocher to brown verticillbristle at about 3/10, 3/5 and apex; first to third segments of hind-tarsus dorsally brown near apex.

Genitalia (Fig. 20). Joint membrane between papillae anales and eighth abdominal segment longer than papillae anales. Eighth abdominal segment cephalodorsally triangular. Ostium bursae subrectangular. Ductus bursae short, 5/8 length of corpus bursae. Corpus bursae with sparse micro spines. Signum bar-shaped, situated at about cephalic 2/11 of corpus bursae; wrinkle present around signum. Bulla originating from about middle of corpus bursae, stout. Ductus seminalis narrow.

Type material. Holotype ♂, Minoh-City, Osaka-Pref., Honshu, Japan, em. 9. viii. 1983, Larva 25. iv. 1983, T. Saito (1♂ Gen. sl. no. 11055), deposited in KGU. Paratypes, Japan: 1♀, Gamushi, Hokkaido, 14. ix. 1958, T. Kumata (1♀ Gen. sl. no. Hld 12). Honshu: Nara-Pref.: 1♀, Mt. Wasamata 1150 m, Kamikitayama-Vill., 18. viii. 1988, S. Moriuti; 1♂ 1♀, Sannoko, Kawakami-Vill., 9. ix. 1991, T. Hirowatari and T. Ueda. 11♂ 22♀, Minoh-City, Osaka-Pref., em. 23. vi–16. ix 1983, Larva 12–25. iv. 1983, T. Saito (3♂ 3♀ Gen. sl. no. 11051, 11052, 11056, 11061, 11071, 11076, 1♂ 1♀ Wing sl. no. 11069, 11073).

Distribution. Japan: Hokkaido, Honshu.

Host plant. *Callicarpa japonica* Thunb. (Lamiaceae).

Biology. Scarcely known. Adults emerge in mid-spring and midsummer.

Remarks. The known distributions of *S. callicarpicola* n. sp., *S. gemmiconsuta* n. sp. and *S. magnisignata* n. sp.

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have some overlap. In addition, the host plant of these species is the same, but the detailed habitat is unknown. Surveys on overlapping distributions and host plant usage are needed to determine the actual habitat of these species.

The male of S. *callicarpicola* is similar to that of deep-colored individuals of *S. pedella* (L., 1761), but the former can be distinguished by the coloration of the vertex, which is fuscous, but yellow in *S. pedella*.

***Stathmopoda gemmiconsuta* n. sp.**
[Japanese name: Hime-murasakishikibu-maikoga]

Diagnosis (Figs 5, 21–24). This new species is superficially very similar to *S. flavescens*, *S. luxuriivora* n. sp. and the female of *S. magnisignata* n. sp. and *S. callicarpicola* n. sp., but can be distinguished by the forewing streak. In this species, the brown streak runs from the brown fascia at 3/5 of forewing to the apex. In contrast, in *S. flavescens* and *S. luxuriivora*, the brown streak is absent (in *S. luxuriivora*, a brown blotch is present at apex); in the female of *S. magnisignata* and *S. callicarpicola*, the streak is not connected with the fascia.

In the genitalia, this species can be distinguished by the bulla being assimilated into the corpus bursae and the latter being very stout.

Description. Wing expanse 8.8–13.4 mm. Forewing length 4.5–6.2 mm. Labial palpus ocher, ventrally white, dorsally with a brown patch around connection of first and second segments. Antenna ocher; scape dorsally ocher, ventrally white. Vertex ocher; frons white; occiput brown, lateral margin ocher. Patagium ocher. Thorax ocher, with three brown spots, a pair of subdorsal spots located near caudal margin and the other located on the caudal margin.

Wing markings (Fig. 5). Forewing ocher; costa brown, paler towards apex; three brown fasciae present near base, 1/3 and 3/5 near dorsum; second and third fasciae trapezoidal and sublozenged respectively, not reaching costa, connected to each other along dorsum by a brown streak; brown streak running from sublozenged fascia at 3/5 to apex; cilia gray to ocher. Hindwing and cilia gray.

Wing venation (Fig. 10). Forewing lanceolate, widest near base; 11-veined; discoidal cell long, occupying basal 2/3 of wing. Sc connected with costal margin of wing on basal 1/3. R_1 absent; R_2 from near upper angle of cell; R_3 from upper angle of cell; R_4 and R_5 stalked. M_2 and M_3, arising from common base, around caudal angle of cell. CuA_1 present near dorsum, rudimentary, sometimes absent; CuA_2 absent. 1A+2A connected about basal 1/7 of wing, rudimentary. Hindwing narrow, 4/5 as long as forewing; eight-veined; discoidal cell open. Rs running to apical 2/5 of costa. M_2, M_3, and CuA_1 stalked, in common with CuA_2; CuA_2 running to about 3/10 of dorsum.

Legs dorsally ocher, ventrally white; fore-femur and -tibia ventrally brown; mid-tibia dorsally brown near base, dorsally with verticillbristle at middle and apex; hind-tibia ventrally gray, dorsally with ocher to brown verticillbristle at about 1/3, 2/3 and apex; first to third segments of hind-tarsus brown near apex, dorsally with ocher to brown verticillbristle at apex of first and second segments. Abdomen whitish gray dorsally, ventrally white; spines of abdominal terga brown, present on second to seventh segments in male, second to sixth segments in female.

Male genitalia (Figs 21–23). Uncus tapering caudally; apex truncate in ventral view, downturned in lateral view; setae present on lateral side. Gnathos as long as uncus, narrow tongue-shaped in ventral view, with apex slightly downcurved and acute in lateral view. Valva broadest near base, with round apex; costa stout and dorsally round, caudally with setae; cucullus about 1.8 times as long as uncus, with numerous setae on inner surface; sacculus sclerotized, apically round, ventrally with setae. Vinculum broadest near saccus; saccus about 1/4 length of uncus and cephalically round. Juxta small, subrectangular to round. Anellar lobes developed, large, subrectangular, weakly sclerotized, with setae on surface. Aedeagus about 5 times as long as uncus; cornutus absent, sclerotized structure present near base of aedeagus, narrow subrectangular and thin; apical patch of stimuli present near apex of aedeagus, 1/2 length of aedeagus, narrow, with round apical margin; about caudal 1/2 of aedeagus membranous, with round apex.

Female genitalia (Fig. 24). Papillae anales longer than wide, weakly sclerotized, dorsally with many short and long setae; joint membrane between papillae anales and eighth abdominal segment as long as papillae anales. Eighth abdominal segment dorsally sclerotized, cephalodorsally oval, with short and long setae arranged along caudal margin. Apophyses posteriores long; apophyses anteriores about 2/3 times as long as apophyses posteriores. Ostium bursae subrectangular, with numerous microsetae on inner surface; sometimes a weakly sclerotized structure present. Ductus bursae short, slightly shorter than length of corpus bursae. Corpus bursae wrinkled. Signum a narrow longitudinal crescent, situated at middle of corpus bursae; microspines present sparsely around signum. Bulla assimilated into corpus bursae, long, very stout, with some triangular spicules near caudal connection of corpus bursae and bulla. Ductus seminalis originating from near caudal margin of bulla; microspines present.

Type material. Holotype ♂, Shimada, Ureshino-Town, Mie-Pref., Honshu, Japan, 11. v. 2001, T. Mano (1 ♂ Gen. sl. no. 10064), deposited in KGU. Paratypes, Japan:

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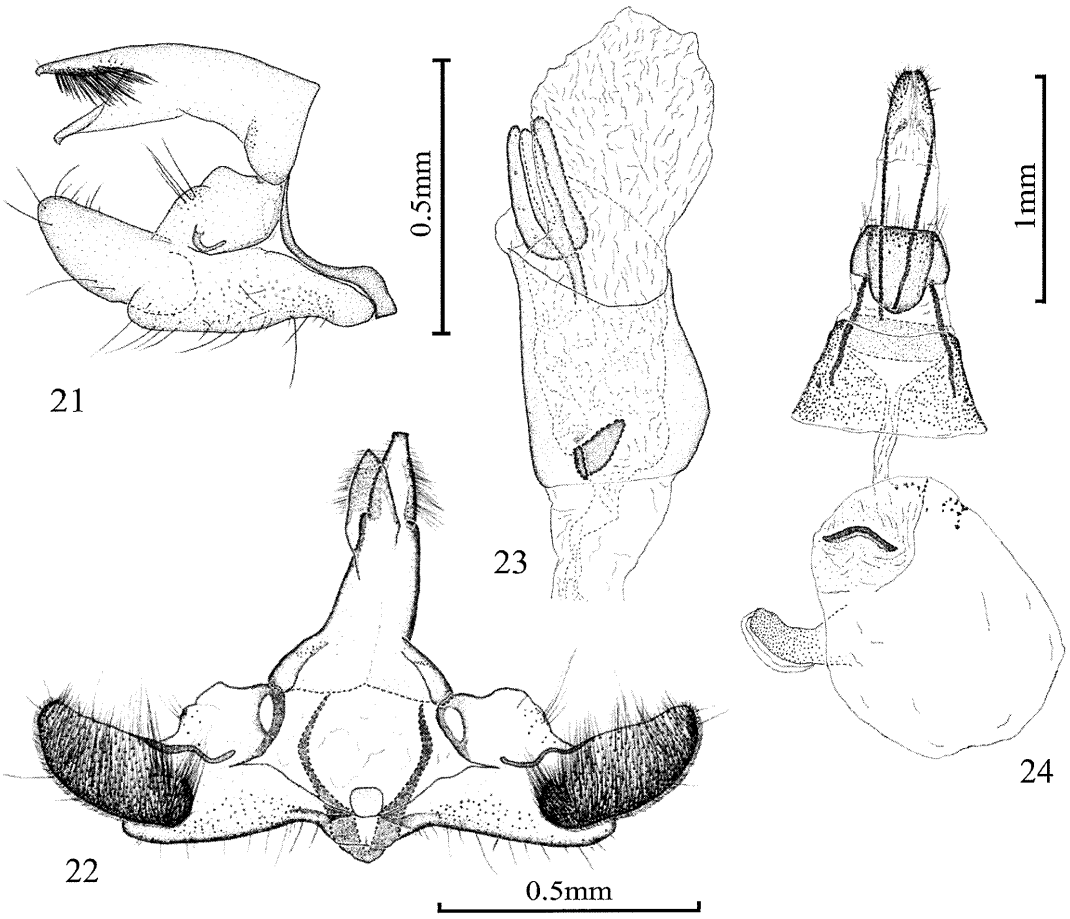

Figs 21–24. *S. gemmiconsta* n. sp., genitalia. 21: Lateral view of male, aedeagus and anellar lobes omitted. 22: Caudal view of male, aedeagus and anellar lobes omitted. 23: Aedeagus with anellar lobes. 24: Dorsal view of female.

Honshu: 1♀, Nasu Imperial Villa, Tochigi-Pref., 23. vi. 2006, Y. Sakamaki; 1♀, Takayama, Gifu-Pref., 25. vii. 1954, A. Mutuura; 1♀, Kyoto-Pref., 23. vii. 1950, Takeuchi; 1♀, Hirai, Kozakawa-Town, Wakayama-Pref., 15. vi. 2006, B. W. Lee; 1♀, Haga, Hyogo-Pref., 30–31. vii. 1965, S. Moriuti; Ibaraki-Pref.: 5♂ 7♀, Koyadai, Tsukuba-City, em. 7–15. vii. 2003, K. Yasuda; 1♂, Sasagi, Tsukuba-City, em. 13. vii. 2003, K. Yasuda; 1♂ 1♀, Shishitsuka, Tsuchiura-City, em. 12. vii. 2003, K. Yasuda; 5♂ 3♀, Yukiiri, Kasumigaura-City, 24–30. vii. 2003, K. Yasuda. Aichi-Pref.: 1♂ 1♀, Toyokawa-City, 4–28. vi. 1994, T. Mano (1♂ 1♀ Gen. sl. no. 11015, 11016); 1♂, Taguchi, Shitara-Town, 1. vi. 1991, T. Mano (1♂ Gen. sl. no. 10072, 1♂ Wing sl. no. 10109); 1♀, Asahi-highland, Asahi-Town, 13. vii. 1996, T. Mano (1♀ Wing sl. no. 11021); 1♀, Nagasawa 120 m, Otowa-Town, 28. v. 2001, T. Mano; 1♀, Tsukude-Vill. 23. vii. 2004, T. Mano (1♀ Gen. sl. no. 10100); Toyota-City: 1♂, Sasabara-Town, Osawa-Riv., 3. vi. 2003, T. Mano (1♂ Gen. sl. no. 11023, 1♂ Wing sl. no. 11005); 1♀, Shimokawaguchi-Town, 10. vii. 2008 T. Mano. Mie-Pref.: 1♂, Goino, Tado-Town, 1. viii. 1986, T. Mano (1♂ Wing sl. no. 11012); 1♀, Obara-ishiki, Hokusei-Town, 7. ix. 1997, T. Mano (1♀ Gen. sl. no. 10106); 1♀, Shimada, Ureshino-Town, 11. v. 2001, T. Mano (1♀ Gen. sl. no. 10065); 1♂, Osaki, Toba-City, 17. v. 2003, T. Mano (1♂ Wing sl. no. 10112). Osaka-Pref.: 1♀, Mt. Iwawaki, 3. viii. 1951, S. Issiki; 1♂, Mt. Iwawaki, 24. vii. 1952, T. Kodama; 2♂ 4♀, Mt. Makio, 23. vii. 1981 and 10. v. 4. viii. 1982, K. Yasuda (1♂ Gen. sl. no. 11067, 1♂ 1♀ Wing sl. no. 11070, 11078).

Distribution. Japan: Honshu.

Host plant. *Callicarpa japonica* Thunb. (Lamiaceae).

Biology. Scarcely known. Adults emerge in late-spring and midsummer. Larvae of early summer spin the buds of flowers.

Remarks. This species and *S. flavescens* are particularly

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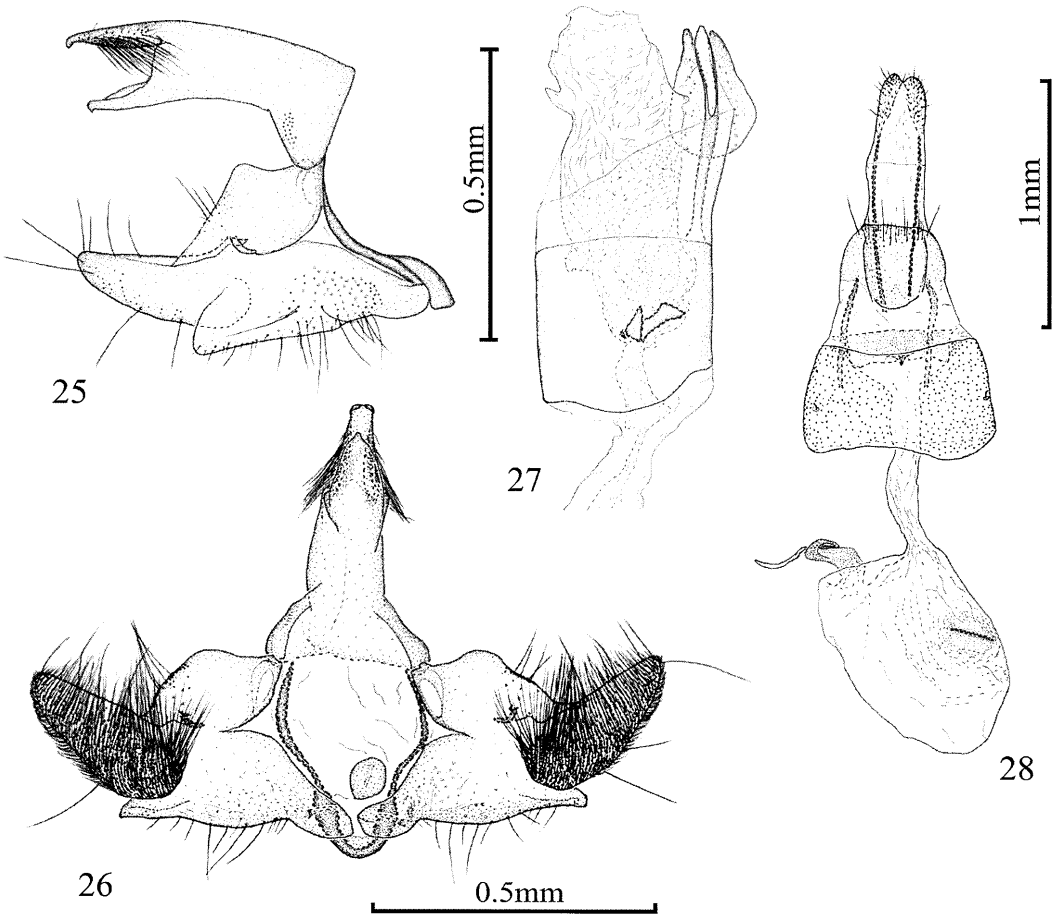

Figs 25–28. *S. luxuriivora* n. sp., genitalia. 25: Lateral view of male, aedeagus and anellar lobes omitted. 26: Caudal view of male, aedeagus and anellar lobes omitted. 27: Aedeagus. 28: Dorsal view of female.

similar to each other (Figs 5, 7). It is difficult to distinguish them from each other by the male genitalia (Figs 21–23, 29–31), but they can be distinguished by the shape and some triangular spicules of the corpus bursae (Figs 24, 32).

***Stathmopoda luxuriivora* n. sp.**

[Japanese name: Minami-hime-murasakishikibu -maikoga]

Diagnosis (Figs 6, 25–28). This new species is superficially very similar to *S. flavescens*, *S. gemmiconsuta* n. sp., females of *S. magnisignata* n. sp. and of *S. callicarpicola* n. sp., but can be distinguished by the forewing markings. In this species, a brown blotch is present at apex. In contrast, in *S. flavescens*, the brown blotch is absent; in other species, a brown streak is present.

In the genitalia, this species can be distinguished by the following characteristics. The uncus has a shallowly bilobate apex. The sacculus protrudes caudally. The bulla is absent. The sclerotized structure of the ostium bursae is triangular.

Description. Wing expanse 7.8–10.6 mm. Forewing length 3.7–5.0 mm. Very similar to *S. gemmiconsuta*, but differing in the following characteristics.

Wing markings (Fig. 6). Forewing, the second and third fasciae subrectangular and sublozenged respectively, reaching the costa; brown blotch present at apex.

Wing venation (Fig. 11). Forewing 1A+2A rudimentary, not branched.

Mid-tibia dorsally white near base; first and second segments of hind-tarsus brown near apex, dorsally with ocher to brown verticillbristle at apex.

Male genitalia (Figs 25–27). Uncus with shallowly bilobate apex in ventral view. Sacculus subtriangular and protruding caudally. Juxta oval.

Female genitalia (Fig. 28). Ostium bursae with triangular sclerotized structure. Ductus bursae long, slightly longer

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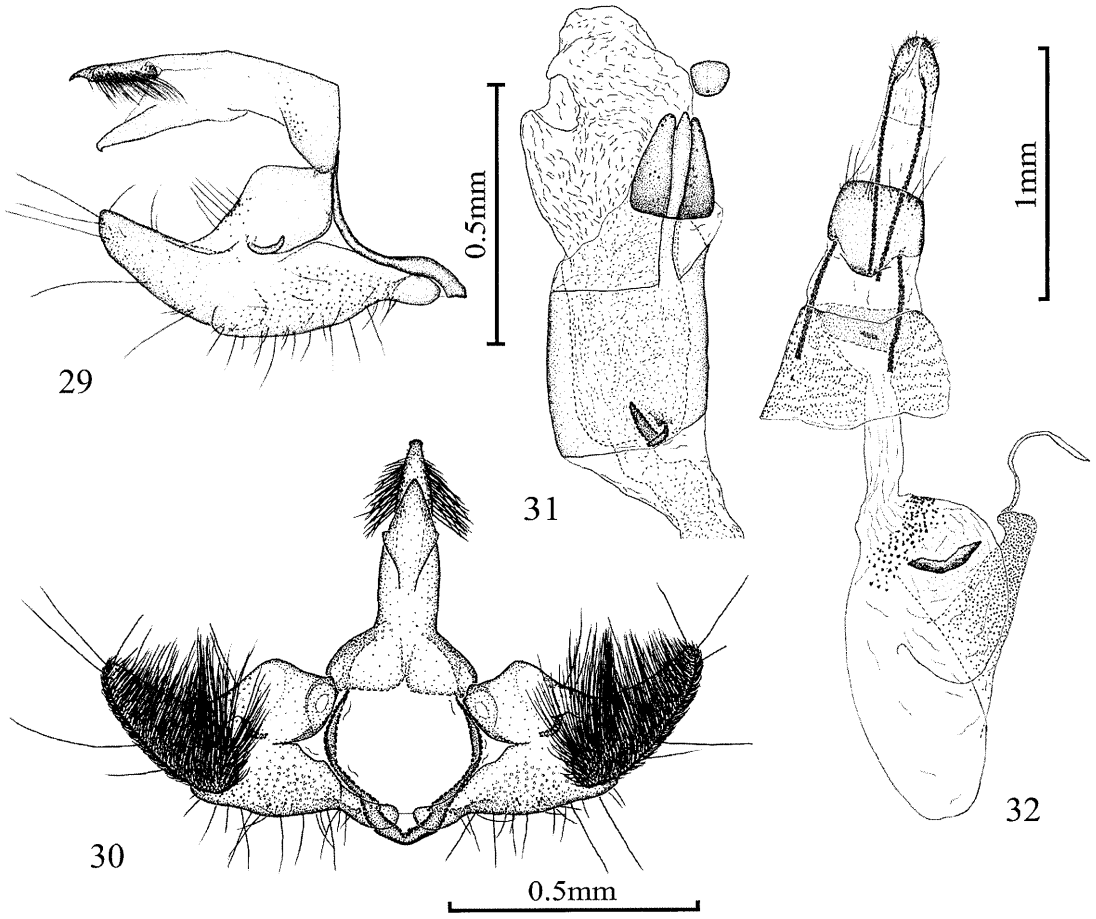

Figs 29–32. *S. flavescens*, genitalia. 29: Lateral view of male, aedeagus and anellar lobes omitted. 30: Caudal view of male, aedeagus, anellar lobes and juxta omitted. 31: Aedeagus with anellar lobes and juxta. 32: Dorsal view of female.

than length of corpus bursae. Corpus bursae smooth, without spicules and wrinkles. Signum bar-shaped, situated at about 1/2 of corpus bursae. Bulla absent. Ductus seminalis originating from caudal 1/10 of corpus bursae.

Type material. Holotype ♂, Kochinda, Okinawa Island, Okinawa-Pref., Ryukyu Islands, Japan, 19. vii. 2001, S. Tominaga (1♂ Gen. sl. no. 11079), deposited in KGU. Paratypes, Japan: Kyushu: Kagoshima-Pref.: 1♀, Takasu, Kanoya-City, 27. vi. 2001, I. Ohshima; Yakushima Island: 2♀, Kurio, 20. viii. 1980, K. Yasuda (1♀ Gen. sl. no. KY-110); 1♀, Nakama, 21. ix. 1978, S. Moriuti (1♀ Gen. sl. no. 11017). Ryukyu Islands: Okinawa-Pref.: 8♂ 13♀, Kochinda, Okinawa-Island, 15–27. vii. 2001 and 29. viii–7. ix. 2002, S. Tominaga (4♂ 2♀ Gen. sl. no. 11053, 11054, 11057, 11058, 11062, 11072, 1♂ 1♀ Wing sl. no. 11068, 11077); Ishigaki Island: 1♂ Mt. Omoto, 4. v. 1978, Y. Arita (1♂ Gen. sl. no. KY-107); 1♀, detail locality unknown, 7. ix. 1985, K. Yasuda (Light trap); 1♂, Hegina, 18. iv. 1990, K. Yasuda (1♂ Gen. sl. no. 11084); 1♀, Mt. Banna, 24. vii. 1993, K. Yasuda (Light trap). 1♂, Hunaura, Uehara, Iriomote Island, 2–3. x. 2001, K. Sugisima (Light trap).

Distribution. Japan: Kyushu (Kagoshima-Prefecture), Ryukyu Islands.

Host plant. *Callicarpa japonica* var. *luxurians* Rehd. and *Clerodendrum trichotomum* var. *esculentum* Makino (Lamiaceae).

Biology. Scarcely known. Adults emerge in mid-spring, midsummer and early fall. Larvae feed on the buds of flowers.

Remarks. The known distributions of *S. luxuriivora* and those of the former four species are separated, but the detailed line of separation is unknown.

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***Stathmopoda flavescens* Kuznetzov**
[Japanese name: Han-no-maikoga]

Stathmopoda flavescens Kuznetzov, 1984: 77–78, figs 1–2.
Stathmopoda flavescens; Oku, 2003: 40.

Diagnosis (Figs 7, 29–32). This species is superficially very similar to *S. gemmiconsuta* n. sp., *S. luxuriivora* n. sp., females of *S. magnisignata* n. sp. and of *S. callicarpicola* n. sp., but can be distinguished by the forewing markings. In this species, the apical brown blotch or streak is absent. In contrast, in *S. luxuriivora*, a brown blotch is present; in other species, a brown streak is present.

In the genitalia, this species can be distinguished by the presence of many triangular spicules in the corpus bursae.

Descriptions. Wing expanse 9.0–12.3 mm. Forewing length 4.2–5.7 mm. See Kuzunetzov (1984).

Specimens examined. Japan: Hokkaido: 2♀, Naebo, Otaru-City, 16. viii. 1991, Y. Sakamaki; 1♀, Chuwa, Asahikawa-City, 6. viii. 1998, Y. Sakamaki. Honshu: 1♂, Mitsukuri-Town, Toyota-City, Aichi-Pref., 25. viii. 2009, T. Mano (1♂ Gen. sl. no. 11022). 1♀, Asagiri-kogen, Hujinomiya-City, Shizuoka-Pref., 1. viii. 1994, T. Mano (1♀ Gen. sl. no. 11014). 1♀, Misore Okuzumi, Meiho-Vill., Gifu-Pref., 7. viii. 1999, T. Mano. Mie-Pref.: 1♂ 1♀, Obara-ishiki, Hokusei-Town, 7. ix. 1997, T. Mano (1♂ 1♀ Gen. sl. no. 10106, 11009); 1♂, Mikuni-Valley 430 m, Fujiwara-Town, 27. viii. 1998, T. Mano (1♂ Gen. sl. no. 10057); 1♂ 1♀, Ise-jingu Koraibiro, Ise-City, 4. ix. 2004, T. Mano (1♀ Gen. sl. no. 10067, 1♀ Wing sl. no. 11007). 1♀, Mt. Wasamata 1150 m, Nara-Pref., 28–29. vii. 1986, S. Moriuti. 1♀, Mt. Iwawaki, Kawachinagano-City, Osaka-Pref., 28. ix. 1951, A. Mutuura. Shikoku: 1♂, Tachibana, Nishitosa-Vill., Kochi-Pref., 23. viii. 2002, T. Mano (1♂ Gen. sl. no. 11085); 1♀, Mt. Takanawa, Iyo, Ehime-Pref., 11. viii. 1959, M. Okada. 2♀, Mt. Hiko, Fukuoka-Pref., Kyushu, 30. viii. 1953 and 3. ix. 1954, H. Kuroko (1♀ Gen. sl. no. 300 H. K.).

Distribution. Japan: Hokkaido (Kogi, 2005), Honshu (Oku, 2003), Shikoku, Kyushu. North Korea, Russia: Primorsky (Sinev, 1999).

Host plant. *Alnus* sp. (Betulaceae) (Sinev, 1999).

Biology. Scarcely known. Adults emerge from midsummer to early fall (Oku, 2003).

Discussion

The species treated in this paper share the following character states different from other congeneric species: in the male genitalia, the cucullus of the valva is narrow oval and narrower than the remainder of the valva; in the female genitalia, the ostium bursae is horizontally subrectangular, and the signum is slender. Thus, they must be closely related to each other.

Their wing markings and venations are also similar (Figs 8–12). *Stathmopoda commoda* Meyrick, 1913 and *S. leptoclista* Meyrick, 1929 are probably also closely related to the species treated here because the wing markings in their original descriptions by Meyrick (1913, 1929) and the form of the male and female genitalia in the descriptions of Kasy (1973) are similar to those of the species considered here. It seems likely that *S. flavescens*, the four new species in this paper, and the above-mentioned species form a species group in the genus *Stathmopoda*.

Most members of the genus *Callicarpa* are distributed in east and southeast Asia (Govaerts *et al.*, 2011). In view of this, more species related to the four new species treated here will probably be found in southeast Asia and adjacent regions.

Within this group, *S. flavescens* is uniquely associated with Alnus. It is not possible at present to determine whether this host plant usage might be ancestral or derived, because sister taxa of this group, which could be assigned as an outgroup, have never been determined. In order to elucidate the evolutionary history of host usage in this group, it will be necessary to carry out further study on the taxonomic status of this group and some allied taxa within the genus *Stathmopoda*.

Acknowledgments

Numerous individuals and institutions have helped in this study. I wish to express my sincere gratitude to Dr Y. Sakamaki (KGU), for his giving advice and critically reading the manuscript. I heartily thank Dr K. Tsuda (KGU), Dr T. Oku, Dr T. Hirowatari (OPU), Dr M. Ohara (HoUM), Dr K. Yasuda (NIAES) and Mr T. Mano (TYRI) for use of their valuable collections, on which this study is based. Special thanks are due to the students of the Entomological Laboratory, KGU, for their kind guidance and constant encouragement.

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Kasy, F., 1973. Beitrag zur kenntnis der familie Stathmopodidae

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Meyrick 1913 (Lepidoptera, Gelechioidea). *Tijidschr. Entomol.* **116** (13): 227–299.

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Sinev, S. Yu., 1999. Family Stathmopodidae. In P. A. Ler (ed.) Key to the insects of Russian Far East 5 (2). pp. 28–42, Dal'nauka, Vladivostok. (In Russian)

Yasuda, K., 1988. Two new species of the genus *Hieromantis* (Lepidoptera, Stathmopodidae) from Japan. *Kontyû* **56**: 491–497.

摘　要

ハンノマイコガに近縁な日本産*Stathmopoda*属の4新種（鱗翅目，ニセマイコガ科）（寺田　剛）

ハンノマイコガ (*S. flavescens* Kuznetzov) に近縁な日本産*Stathmopoda*属の4新種を記載した．ムラサキシキブマイコガ（新称）(*S. magnisignata* n. sp.) およびウスムラサキシキブマイコガ（新称）(*S. callicarpicola* n. sp.) は外見的特徴が互いに似ており，雌雄で色彩が異なる．また，これら2種の雌とヒメムラサキシキブマイコガ(新称) (*S. gemmiconsuta* n. sp.)，ミナミヒメムラサキシキブマイコガ（新称）(*S. luxuriivora* n. sp.)，ハンノマイコガは外見的特徴が互いに似ている．そこで，これら5種成虫の外見的特徴，翅脈，雌雄交尾器を図示し，比較した．その結果，5種は互いに近縁であると考えられた．また，外見的には胸部や翅の斑紋で区別できる．4新種は分布や生態についての情報が不足しており，調査が必要であると考えられた．

1. *Stathmopoda magnisignata* n. sp.　ムラサキシキブマイコガ (Figs 1–2, 8, 13–16)

開張11.1–13.9 mm．前翅長5.1–6.3 mm．雌雄で色彩が異なる．雄の胸部および前翅は黒褐色であり，前翅1/6の位置に黄土色の斑紋がある．雌の胸部は暗褐色であり，中央に太い黄土色の横帯が走る．前翅は黄土色で，基部，1/3，2/3に暗褐色帯が走り，翅頂に褐色条が走る．1/3と2/3の帯の幅はほぼ同じ．雄交尾器のグナトスは太く先端が丸い．雌交尾器のシグヌムは非常に大きい．幼虫はムラサキシキブの若葉を綴る．成虫は6–8月に発生する．本種は奥 (2003) によって*Stathmopoda* sp. 2として記録された．分布：本州．寄主植物：ムラサキシキブ（シソ科）．

2. *Stathmopoda callicarpicola* n. sp.　ウスムラサキシキブマイコガ (Figs 3–4, 9, 17–20)

開張9.4–12.1 mm．前翅長4.7–6.0 mm．前種に似ており，雌雄で色彩が異なる．雄の胸部および前翅は暗褐色であり，胸部中央に黄土色の斑紋がある．前翅1/6，1/2，4/5に黄土色の斑紋がある．雌の胸部と前翅は黄土色であり，胸部中央にアーチ状の褐色帯，前翅基部，1/3，2/3に褐色帯が走る．2/3より1/3の帯の方が太く，翅頂に褐色条が走る．雄交尾器のウンクスは細く，バルバの背縁は裁断状である．雌交尾器のシグヌムは棒状で小さい．成虫は4月と8–9月に発生する．分布：北海道，本州．寄主植物：ムラサキシキブ（シソ科）．

3. *Stathmopoda gemmiconsuta* n. sp.　ヒメムラサキシキブマイコガ (Figs 5, 10, 21–24)

開張8.8–13.4 mm．前翅長4.5–6.2 mm．胸部および前翅は黄土色であり，胸部に褐色の斑紋が3つある．前翅基部，1/3，3/5に褐色帯が走り，3/5の帯から翅頂にかけて翅の長軸付近を褐色条が走る．雄交尾器のウンクスは先端が裁断状である．雌交尾器のコルプス・ブルサエとブラの接点付近に少数の小鋸歯がある．成虫は5–6月と7–8月に発生する．7–8月に羽化する幼虫はムラサキシキブの蕾を綴る．分布：本州．寄主植物：ムラサキシキブ（シソ科）．

4. *Stathmopoda luxuriivora* n. sp.　ミナミヒメムラサキシキブマイコガ (Figs 6, 11, 25–28)

開張7.8–10.6 mm．前翅長3.7–5.0 mm．前種に似ているが，前翅頂には褐色の斑紋があり，前翅3/5の褐色帯とはつながらない．雄交尾器のウンクスは先端が不明瞭な二股に分かれ，サックルスが腹側に出張る．雌交尾器の交尾口に逆三角形の硬化部がある．成虫は4–10月に発生する．分布：九州（鹿児島），琉球．寄主植物：オオムラサキシキブ，ショウロウクサギ（シソ科）．

5. *Stathmopoda flavescens* Kuznetzov, 1984　ハンノマイコガ (Figs 7, 12, 29–32)

開張9.0–12.3 mm．前翅長4.2–5.7 mm．前2種に似ているが，胸部および前翅はより明るい黄土色から白色であり，前翅頂に褐色条や斑紋は無い．雄交尾器はヒメムラサキシキブマイコガに非常によく似ており区別が困難である．しかし，雌交尾器のコルプス・ブルサエとブラの接点はヒメムラサキシキブマイコガよりくびれ，多数の小鋸歯数がある．成虫は7–9月に発生する．分布：北海道，本州，四国，九州；ロシア極東，北朝鮮．寄主植物：ハンノキ（カバノキ科）．

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